Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3059923 - PP-R Pipe GY 20x2,8 PN16 L=4 Wood.Crate
Unit:	1 piece
Manufacturer:	Wavin - CZ - Horni Pocernice
Location:	Czechia
Address:	Do Čertous 2659 193 00 Horní Počernice Czech Republic

Use the Ekoplastik System when you prefer an all-plastic welded system or when you need pipes with larger diameters. The Ekoplastik system offers a maximum pipe diameter of 250 mm. Join pipes and fittings using a homogenous weld for secure and permanent connections.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	04-10-2022
End of validity:	04-10-2027
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - CZ - Horni Pocernice (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.08E+0	1.32E-1	1.91E-2	1.23E+0	1.55E-2	6.19E-1	7.28E-3	-7.48E-1	1.12E+0
GWP-f	kg CO2 eq	1.23E+0	1.32E-1	1.55E-2	1.37E+0	1.55E-2	4.69E-1	7.28E-3	-7.46E-1	1.12E+0
GWP-b	kg CO2 eq	-1.46E-1	7.58E-5	3.26E-3	-1.43E-1	9.38E-6	1.50E-1	6.33E-6	-2.52E-3	5.05E-3
GWP-luluc	kg CO2 eq	4.12E-4	4.81E-5	3.12E-4	7.72E-4	5.47E-6	8.73E-5	1.25E-7	-2.11E-4	6.54E-4
ODP	kg CFC11 eq	2.56E-8	3.03E-8	1.95E-8	7.53E-8	3.56E-9	1.15E-8	1.83E-10	-2.99E-8	6.07E-8
AP	mol H+ eq	4.51E-3	8.92E-4	1.71E-4	5.57E-3	8.80E-5	4.83E-4	4.37E-6	-2.16E-3	3.99E-3
EP-fw	kg P eq	1.93E-5	1.06E-6	7.77E-7	2.12E-5	1.27E-7	2.52E-6	5.73E-9	-8.86E-6	1.49E-5
EP-m	kg N eq	7.60E-4	3.01E-4	3.31E-5	1.09E-3	3.15E-5	1.41E-4	2.83E-6	-3.94E-4	8.75E-4
EP-T	mol N eq	8.68E-3	3.32E-3	3.88E-4	1.24E-2	3.47E-4	1.56E-3	1.77E-5	-4.39E-3	9.91E-3
POCP	kg NMVOC eq	3.90E-3	9.36E-4	8.56E-5	4.92E-3	9.92E-5	4.91E-4	6.65E-6	-1.98E-3	3.54E-3
ADP-mm	kg Sb eq	2.11E-5	3.32E-6	1.50E-6	2.59E-5	4.00E-7	1.90E-6	4.41E-9	-5.10E-6	2.31E-5
ADP-f	MJ	4.27E+1	2.01E+0	4.99E+0	4.98E+1	2.37E-1	1.52E+0	1.33E-2	-2.31E+1	2.84E+1
WDP	m3 depriv.	8.53E-1	6.06E-3	7.94E-2	9.39E-1	7.28E-4	2.96E-2	7.26E-5	-3.98E-1	5.71E-1
PM	disease inc.	4.12E-8	1.16E-8	1.26E-9	5.41E-8	1.39E-9	7.92E-9	9.18E-11	-1.96E-8	4.39E-8
IR	kBq U-235 eq	2.32E-2	8.79E-3	5.91E-2	9.11E-2	1.04E-3	4.60E-3	6.18E-5	-1.15E-2	8.53E-2
ETP-fw	CTUe	7.41E+0	1.62E+0	1.71E+0	1.07E+1	1.93E-1	1.71E+0	1.12E-2	-3.39E+0	9.27E+0
HTP-c	CTUh	3.62E-10	5.90E-11	3.24E-11	4.54E-10	6.85E-12	2.13E-10	3.30E-13	-1.74E-10	4.99E-10
HTP-nc	CTUh	8.54E-9	1.92E-9	1.11E-9	1.16E-8	2.30E-10	2.57E-9	7.21E-12	-3.85E-9	1.05E-8
SQP	Pt	1.43E+1	1.67E+0	1.36E+0	1.74E+1	2.03E-1	1.21E+0	3.42E-2	-1.12E+1	7.62E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.46E+0	2.83E-2	7.12E-1	3.20E+0	3.40E-3	7.47E-2	5.14E-4	-1.87E+0	1.41E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.46E+0	2.83E-2	7.12E-1	3.20E+0	3.40E-3	7.47E-2	5.14E-4	-1.87E+0	1.41E+0
PENRE	MJ	4.59E+1	2.14E+0	5.00E+0	5.30E+1	2.52E-1	1.62E+0	1.42E-2	-2.49E+1	3.00E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.59E+1	2.14E+0	5.00E+0	5.30E+1	2.52E-1	1.62E+0	1.42E-2	-2.49E+1	3.00E+1
PET	MJ	4.83E+1	2.17E+0	5.71E+0	5.62E+1	2.55E-1	1.69E+0	1.47E-2	-2.68E+1	3.14E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.31E-2	2.23E-4	2.63E-3	1.60E-2	2.68E-5	8.78E-4	1.64E-5	-6.05E-3	1.09E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.78E-6	5.04E-6	4.10E-8	1.19E-5	6.07E-7	2.49E-6	1.61E-8	-6.22E-6	8.75E-6
NHWD	kg	5.98E-2	1.21E-1	2.32E-4	1.81E-1	1.47E-2	7.55E-2	5.88E-2	-2.33E-2	3.06E-1
RWD	kg	2.05E-5	1.37E-5	5.55E-8	3.43E-5	1.61E-6	5.84E-6	8.71E-8	-1.07E-5	3.11E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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